

**CONSTRUCTION CONSULTING LABORATORY**

1601 LUNA ROAD / CARROLLTON, TX 75006

PHONE: 972-242-0556

**CLIENT: POCAHONTAS ALUMINUM COMPANY**

2001 Industrial Drive

Pocahontas, AR 72455

Phone: 870-892-3689

CCL REPORT: 25-208**Report Date:** October 27, 2025**Revision date:** November 12, 2025***Tracking#:** CCL T0911-01 / T0911-02

Product Type:	PVC Hung Window, Product Drawings, Appendix A
Series / Model:	Series V21
Specification:	AAMA/WDMA/CSA 101/I.S.2/A440-22 (NAFS22)
	AAMA 1701.2-12 / AAMA 1701.2-17 / AAMA 1704-17
CFR method	24 CFR 3280.403 / +/- 2770 Pa (58.0 PSF)
NAFS22 Rating:	R-PG20 914 x 1727 (36" x 68") H
Frame Size:	919 x 1732mm (3' 3/16" x 5' 8 3/16")
Fixed DLO:	848 x 791mm (33 3/8" x 31 1/8")
Sash Size:	868 x 870mm (2' 10 3/16" x 2' 10 1/4")
Sash DLO:	782 x 789mm (30 13/16" x 31 1/16")
Configuration:	O/X

AAMA 1704-17	SUMMARY OF TESTS	RESULTS
Egress / Clear Opening	Must meet or exceed >0.55m ² (5Ft ²) opening	Pass
Operating Force	Locks and Latches	<90N (20 Lbs.) Pass
Operating Force	Sash Operation	<90N (20 Lbs.) Pass
Operating Force	Force to Remove Screen	<90N (20 Lbs.) Pass

AAMA 1701.2	SUMMARY OF TESTS	RESULTS
ASTM E 330-21 Uniform Load	1190 Pa (+25 PSF) /- 595 Pa (-12.5 PSF)	Pass
ASTM E 283-19 Air Infiltration	75 Pa (1.57 PSF)	0.10 Cfm/Ft ² - Pass
ASTM E 547-16 Water Resistance	140 Pa (2.92 PSF)	Pass
ASTM E 330-21 Uniform Load	+/- 2770 Pa (58.0 PSF) ^{NI}	Passed

NI: +/- 2770 Pa (+/-58.0 PSF) meets 24-CFR- 3280.403 / 3280.305 (C) (1) for Wind Zone III Corner Zone

NAFS22	SUMMARY OF TESTS	RESULTS
Product Designator	R PG 20 914 x 1727 (36 x 68) H	Passed
Air Infiltration 75 Pa (1.57 PSF)	0.40 L/ s•m ² (0.10 cfm/ Ft ²)	Passed
Air Exfiltration -75 Pa (-1.57 PSF)	0.65 L/ s•m ² (0.13 cfm/ Ft ²)	Passed
Water Resistance	150 Pa (3.13 PSF)	Passed
Uniform Load Deflection	+/-960 Pa (20.05 PSF)	Passed
150% Design Pressure	+/- 1440 Pa (30.08 PSF)	Passed
Forced Entry	Grade 10	Passed
Sash Deglazing	ASTM E 987	Passed

*Revised to correct glass ply thickness to SSB Glass

Attachments: This report is complete only when all attachments listed are included.**Appendix A:** Complete drawings packet on file with the program administrator and Construction Consulting Laboratory



1. PROJECT DATA

1.1. REPORT ISSUED

Pocahontas Aluminum Company

Pocahontas, AR 870-892-3689

1.2. TEST LABORATORY

Construction Consulting Laboratory (CCL)

Carrollton, Texas

972-242-0556

2. PROJECT SUMMARY

2.1. Project: AAMA/WDMA/CSA 101/I.S.2/A440-22 Performance Testing

AAMA 1701.2 Primary Window for Manufactured Housing Performance Tests

AAMA 1704-17 Egress standard

2.2. Series/Model: V21 / PVC Hung

2.3. Compliance Statement: Results obtained are tested values and were secured by using the designated test methods in accordance with the requirements and methods noted in the designated test specification.

2.4. Test Completion: September 22, 2025

2.5. Sample Source: Specimens were manufactured by Pocahontas Aluminum Company and delivered to CCL. CCL installed the specimen under the guidance of the client and performed testing as noted within.

2.6. Record Retention: Reports, drawings, and any project photographs taken will be retained four (4) years from the test completion date.

2.7. Drawing Reference: The appended specimen drawings are representative of the tested specimen.

2.8. Observers:

Witnessed By	Representative (All or Partial Viewing)		
CCL	Anthony Alarcon	Edsson Alarcon	Wesley Wilson

3. SPECIFICATIONS / METHODS

- **AAMA/WDMA/CSA 101/I.S.2 /A440-22** “North American Fenestration Standard / Specification for windows, doors, and skylights. (NAFS-22)”
- **AAMA1701.2-12 and 1701.2-17** “Voluntary Standard for Utilization in Manufactured Housing for Primary Windows and Sliding Glass Doors”
- **AAMA1704-17** “Voluntary Standard for Egress Windows Systems for Utilization in Manufactured Housing”
- **24 CFR 3280.403** “Requirements for Windows, Sliding Glass Doors, and Skylights” conducted at wind loads based on CFR 3280.305 (C) (1)

4. SUMMARY

Series	Product Type	Test Size	Design Pressure (DP)	Rating
V21	PVC Hung	3' 3/16" x 5' 8 3/16"	+/-960 Pa (20.05 PSF)	DP20
V21	PVC Hung	3' 3/16" x 5' 8 3/16"	+/-2770 Pa (58.0 PSF)	PASS, See Note
Note: +/- 2770 Pa (+/-58.0 PSF) meets 24-CFR- 3280.403 / 3280.305 (C) (1) for Wind Zone III Corner Zone				



5. TEST SPECIMEN

Product Type:	PVC Hung Window, Product Drawings, Appendix A
Series / Model:	Series V21
Specification:	AAMA/WDMA/CSA 101/I.S.2/A440-22 (NAFS22)
	AAMA 1701.2-12 / AAMA 1701.2-17 / AAMA 1704-17
CFR method	24 CFR 3280.403 / +/- 2770 Pa (58.0 PSF)
NAFS22 Rating:	R-PG20 914 x 1727 (36" x 68") H
Frame Size:	919 x 1732mm (3' 3/16" x 5' 8 3/16")
Fixed DLO:	848 x 791mm (33 3/8" x 31 1/8")
Sash Size:	868 x 870mm (2' 10 3/16" x 2' 10 1/4")
Sash DLO:	782 x 789mm (30 13/16" x 31 1/16")
Configuration:	O/X

Weather Stripping: Fin seal Pile weather strip 6.35 x 4.75mm (0.250" x 0.187"), One (1) row at the exterior face and lateral face of the sash stile and bottom rail and one (1) row at the exterior face of sash interlock stile.

Weep Arrangement: One (1) 28.57 x 5.55mm (1 1/8" x 7/32") weep slot at each end of the frame sill exterior face, spaced 58.73 mm (2 5/8") from each end. One (1) 25.4 x 6.35 mm (1" x 1/4") weeps at the exterior face of sill center leg at the miter weld line. One (1) 6.35mm (1/4") diameter weep hole located 44.5mm (1 3/4") from each end of top of frame sill at the screen pocket.

Glass: 15.88 mm (5/8") overall thickness Sealed Insulating Glass (SIG): Two (2) pieces, 2.28mm (0.090") SSB annealed glass with 11.11 mm (7/16") Duraseal air spacer.

Glazing: Structurally glazed using silicone sealant at the interior face of glass and rigid snap in glazing bead at the exterior of glass.

Hardware: Composite sweep lock located 178 mm (7") on center from each end of sash lock stile attached with two (2), #6 x 19.05 mm (3/4") PH screws per lock. Locks engage a groove at the fixed interlock. One (1) 3-coil balance per sash stile.

Reinforcement: Extruded aluminum (solid) profile, part# AF-5570 at the fixed interlock. Extruded aluminum (solid) profile, part #AF-5569 at all sash members.

Sealants: see Glazing

Test Buck: Test fixture / buck included a nominal 50.8 x 101.6 mm (2" x 4") SPF lumber perimeter frame wrapped with a nominal 50.8 x 152.4 mm (2" x 6") SPF lumber perimeter frame. The Max RO is the specimen dimension plus 6.35 mm (1/4").

Installation: Finned (New construction) window mounting flange set in sealant and secured to test buck with #8 x 41.3 mm (1 5/8") pan head screws spaced 50.8 mm (2") from each end and on 304.8mm (12") centers, full perimeter.

Other Features: Frame and sash corners are mitered and welded. Fixed interlock attached to frame jambs with two (2) #8 x 76.2mm (3") screws per end



6. PERFORMANCE RESULTS

<u>Test</u>	<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
1704	Clear Opening		33 ⁷ / ₁₆ "w x 31 ¹ / ₂ "h	Min 20.0"w / 24.0"h
			0.679m ² (7.31 Ft ²)	≥0.55m ² (5Ft ²)
	Operating Force	Locks and Latches		
1701.2	Uniform Load	ASTM E 330 ^{N1}		
	Positive 1190 Pa (25 PSF)		No Damage	No Damage
	Negative 595 Pa (12.5 PSF)		No Damage	No Damage
1701.2	Air Infiltration	ASTM E 283 ^{N2}	0.45 L/s•m ²	2.5 L/s•m ²
	@ 75 Pa (1.57 PSF)		(0.09 cfm/ft ²)	(0.50 cfm/ft ²)
1701.2	Water Resistance	ASTM E 547 ^{N3}		
	140 Pa (2.92 PSF)		No Leakage	No Leakage
8.3.1	Operating Force Break away	Initiate	62.3 N (14.0lbs.)	200 N (44.96 lbs.)
		Open	68.9 N (15.5 lbs.)	155 N (34.85 lbs.)
		Close	51.2 N (11.5 lbs.)	155 N (34.85 lbs.)
8.3.1.3	Latching Devices	Unlock	5.8N (1.3 lbs.)	100 N (22.48 lbs.)
		Lock	6.7 N (1.5 lbs.)	100 N (22.48 lbs.)
8.3.2	Air Infiltration	ASTM E 283 ^{N2}	0.40 L/s•m ²	1.5 L/s•m ²
	@ 75 Pa (1.57 PSF)		(0.10 cfm/ft ²)	(0.30 cfm/ft ²)
	Air Exfiltration	ASTM E 283 ^{N2}	0.65 L/s•m ²	1.5 L/s•m ²
	@ -75 Pa (-1.57 PSF)		(0.13 cfm/ft ²)	(0.30 cfm/ft ²)
8.3.3	Water Resistance	ASTM E 547 ^{Note 3}		
	360Pa (7.52 PSF)		No Leakage	No Leakage
8.3.4.2	Deflection	ASTM E 330 ^{Note 1}	Fixed Interlock	
	960 Pa (20.05 PSF) Positive	Net deflection	11.2 mm (0.441")	Reported
	960 Pa (20.05 PSF) Negative	Net deflection	13.3 mm (0.525")	Reported
8.3.4.3	Uniform Load	ASTM E 330 ^{Note 1}	Fixed Interlock	
	1440 Pa (30.08 PSF) Positive		No Damage	No Damage
	-Permanent Set		0.533 mm (0.021")	3.65 mm (0.144")
	1440 Pa (30.08 PSF) Negative		No Damage	No Damage
	-Permanent Set		0.762 mm (0.030")	3.65 mm (0.144")
Increased	Uniform Load	ASTM E 330 ^{Note 4}	Fixed Interlock	
	2770 Pa (58.0 PSF) Positive		No Damage	No Damage
	-Permanent Set		1.14 mm (0.045")	3.65 mm (0.144")
	2770 Pa (58.0 PSF) Negative		No Damage	No Damage
	-Permanent Set		1.83 mm (0.072")	3.65 mm (0.144")



<u>Test</u>	<u>Title of Test</u>	<u>Test Method</u>	<u>Measured</u>	<u>Allowed</u>
8.3.5	Forced Entry Resistance	ASTM F 588-14		
	Grade 10		No Entry	No Entry
8.3.6.2	Deglazing Test			
	Rails @ 311 N (70 lbs.)		Pass	Movement <10%
	Stiles @ 222 N (50 lbs.)		Pass	Movement <10%

Note 1: CCL’s opinion that the use of 2-mil plastic sheeting used to seal against air loss did not enhance the performance characteristics of the specimen.

Note 2: Results reported at the request of the manufacturer.

Note 3: Tested with and without an exterior screen.

Note 4: +/- 2770 Pa (+/-58.0 PSF) meets 24-CFR- 3280.403 / 3280.305 (C) (1) for Wind Zone III Corner Zone

Detailed extrusion and assembly drawings indicating measured wall thickness and corner construction are on file and were compared to the test sample submitted. These records will be retained at CCL for a period of four years.

7. DISCLAIMER

This report was prepared by **Construction Consulting Laboratory (CCL)** for the exclusive use of the named client and does not constitute certification of this product. The results noted are actual tested values and apply only to the tested specimen using the components, construction, and installation methods described herein. Detailed drawings compared to the tested specimen are appended to this report. This report is the joint property of CCL and the named client to whom it is issued. Permission to reproduce this report by anyone other than the client and CCL must be approved in writing by both parties. This report must be reproduced in its entirety.

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EDSSON ALARCON
 SENIOR TEST TECHNICIAN
 SIGNED ELECTRONICALLY

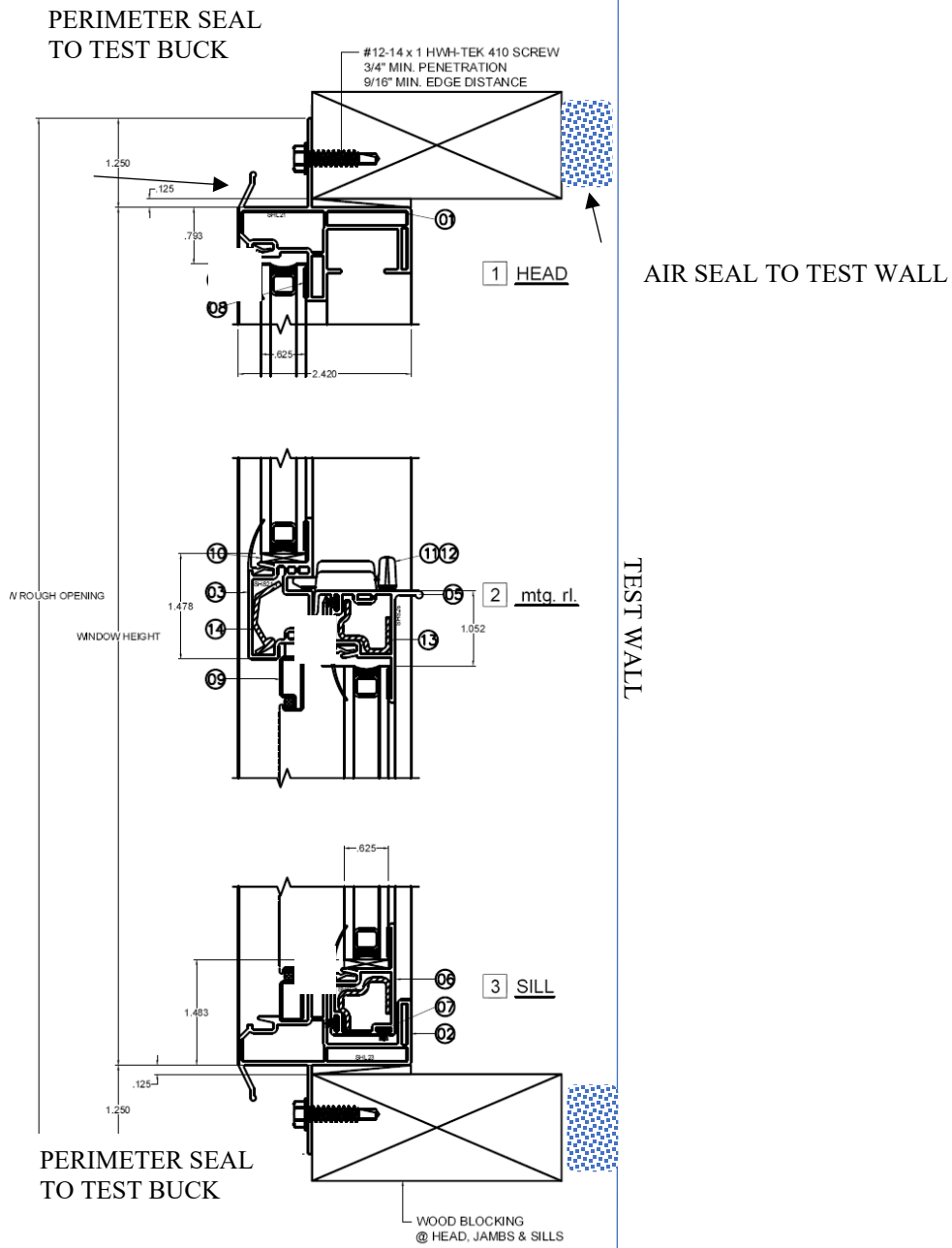


WESLEY WILSON FMPC
 LABORATORY MANAGER
 SIGNED ELECTRONICALLY



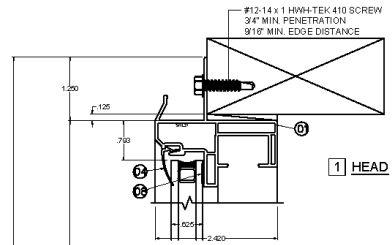
APPENDIX
PRODUCT DRAWINGS

Drawing	Part	Date	Stamped as Illustrated
	Cross Section / Assembly / BOM	2-11-25	 CONSTRUCTION CONSULTING LABORATORY INTERNATIONAL 1601 Luna Road Carrollton, Texas 75006 Phone (972) 242-0556 Report# 25-208 Date 10-27-25 Reviewed BY WW
SHL21	Frame Head and Jambs	Not dated	
SHL23	Frame Sill	Not dated	
SHS25	Sash stile and bottom rail	Not dated	
SHS26	Sash Top Rail / Interlock	Not dated	
SHS214	Fixed Interlock Rail	Not dated	
	Weather Strip		
AF-5569	Fixed Interlock Reinforcement	06-23-20	
AF-5570	Sash Reinforcement (rail and stiles)	06-23-20	
0343200-1	Glazing Bead	2/17/?	
821	Sash Stop	4-20-18	



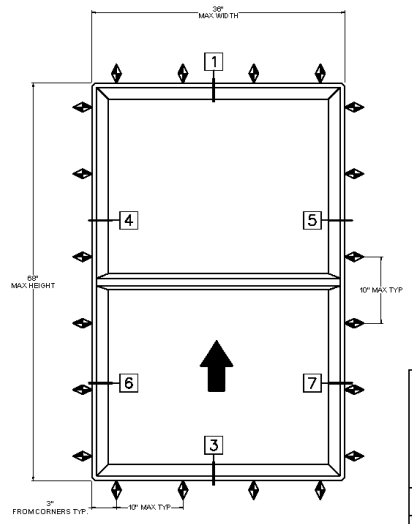
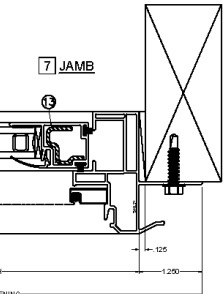
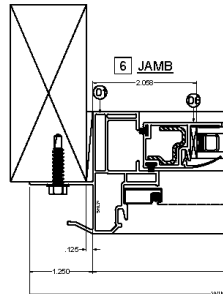
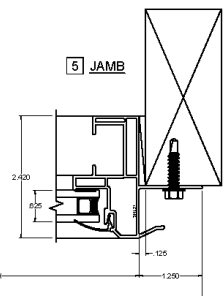
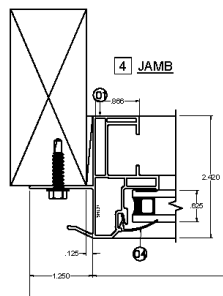
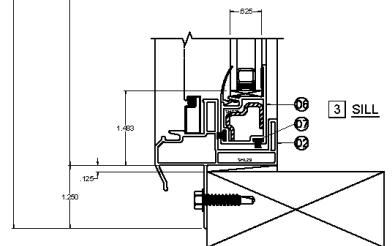
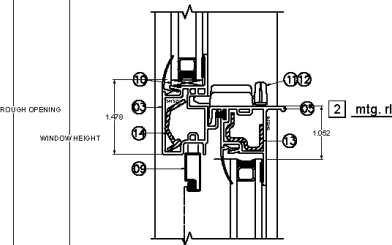


BILL OF MATERIALS				
BOM#	QTY	PART#	DESCRIPTION	VENDOR
01	3	SHL21	HEAD & JAMB FRAME	VEKA
02	1	SHL23	STILL FRAME	VEKA
03	1	SHS214	MEETING RAIL	VEKA
04	AS REQ'D	3200-1	GLAZING BEAD	VALTECH
05	1	SHS26	SASH LOCK RAIL	VEKA
06	3	SHS25	SASH STILES & BOTTOM RAIL	VEKA
07	AS REQ'D	E0017	WOOL PILE	ASIA SOURCING
08	AS REQ'D	0319200502	GLAZING SEALANT	LOEFFLER SUPPLY SUPPLY
09	1	-	SCREEN ASSEMBLY	PAC
10	16	0056001	1/8 X 5/8 X 5/8 TPE SET BLOCK	SECOR
11	2	00531621	SWEEP LOCK	ASIA SOURCING
12	4	03980661	8X3/4 COVER LOCK SCREWS	MERCHANTS
13	4	AF-5570	RAIL STIFFNER	TOVER
14	1	AF-5569	STIFFNER FOR FIXED INTERLOCK	TOVER
15				
16				
17				



Glass Description
 5/8" IGU--Single Strength, 3/8" Air, Single Strength

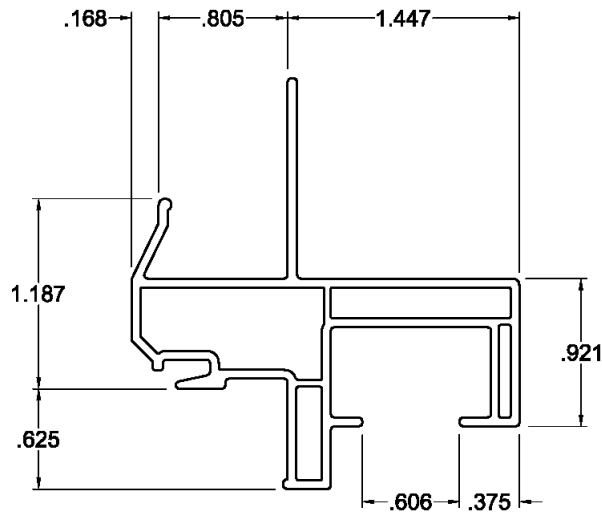
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 Report# 25-208 date 10-27-25
 Reviewed BY V.W.



PAC POCAHONTAS ALUMINUM COMPANY
 2021 INDUSTRIAL DRIVE POCAHONTAS, ALUMINUM
 POCAHONTAS, AL 35969
 TITLE: V21 SINGLE HUNG
 PROJECT: NCD
 DRAWING: 02/11/2025
 REVISION: JH



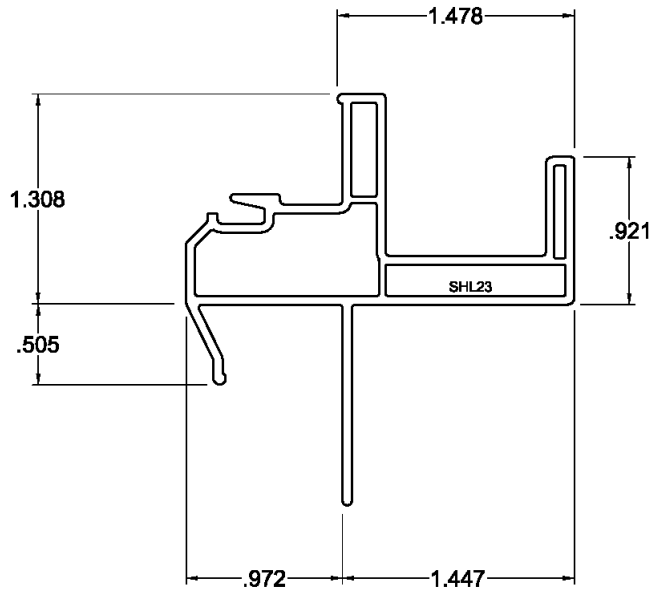
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PART NO. SHL21	MATERIAL PVC
END USE FRAME HEAD & JAMBS	
NOTE(S) TYP. WALL THICKNESS = 0.055"	



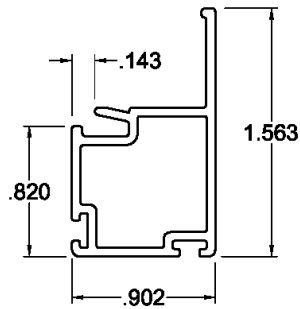
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PART NO. SHL23	MATERIAL PVC
END USE FRAME SILL	
NOTE(S) TYP. WALL THICKNESS = 0.055"	



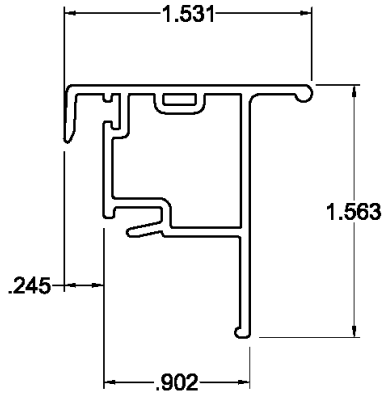
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PART NO. SHS25	MATERIAL PVC
END USE SASH SIDE & BOTTOM RAILS	
NOTE(S) TYP. WALL THICKNESS = 0.055"	



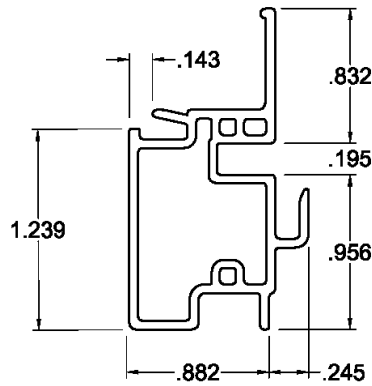
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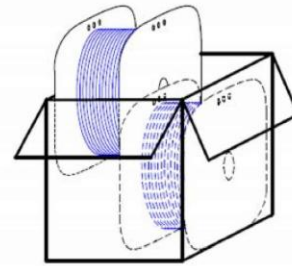
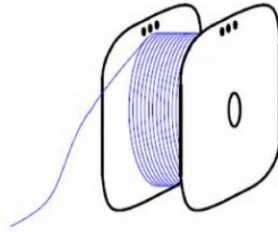
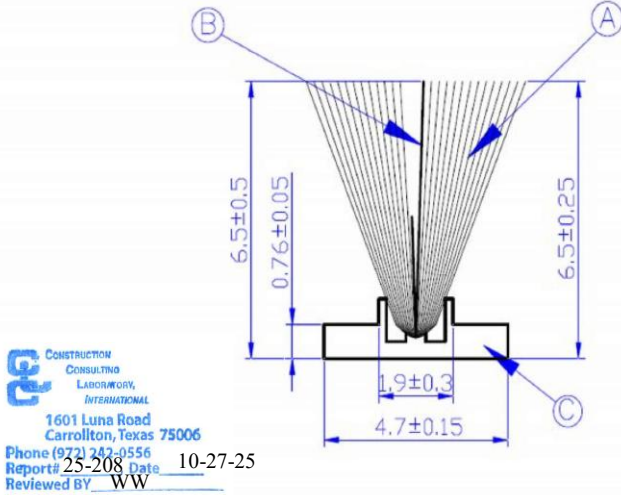
PART NO. SHS26	MATERIAL PVC
END USE SASH LOCK RAIL	
NOTE(S) TYP. WALL THICKNESS = 0.055"	



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PART NO. SHS214	MATERIAL PVC
END USE FRAME MEETING RAIL	
NOTE(S) TYP. WALL THICKNESS = 0.055"	



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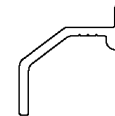
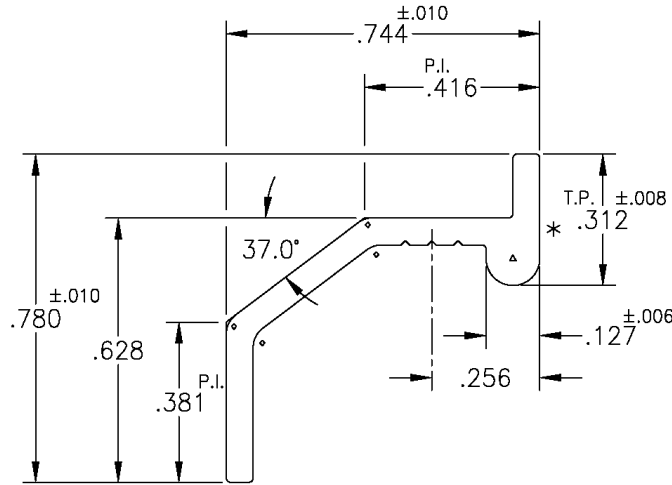
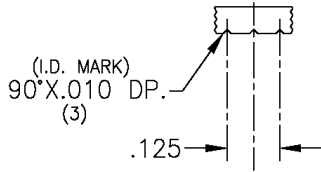
序号 Code	材料 Material	4.7 × 6.5 × 6.5	包装说明 Package	1700米一卷，两卷每箱 (750M per roll, 2 rolls one carton)		
A	BCF纱线 BCF yarn		每卷米数偏差±2%，最大不超过±5米 more or less ±2% per roll, less than 5M per roll	纸箱材质 Carton material: BE	纸箱规格 Carton size: 4540*1443	
B	弹性塑料片 Elastic film		编制 Editor:	姓名 Name: 程伟	日期 Date: 20251009	审核 Auditor:
C	PP塑料基板 Plastic base		审批 Approver:	姓名 Name: 程伟	日期 Date: 20251009	图纸状态 Drawing status:
质量控制点 Quality Control point	焊接拉力每厘米大于30N Welding tension more than 30N per centimeter		产品米克重 (product gram weight): 7.3±0.0	图纸编号 Drawing No.: E001		
特殊说明 Special remark	产品基板弧度每米小于4cm Base radian less than 4cm per meter	产品截面缩放比例 (Drawing scale): 0.1	版本号 (Format): A-5	页数 (Sheet): 1/1	类型: PP 密封条 Title: Brush seal, PP	



* STRUCTURAL AND/OR HEAT STREAKS ARE POSSIBLE IN THIS AREA AND MAY NOT BE REASON FOR REJECTION.

FINISH()
 2PC()

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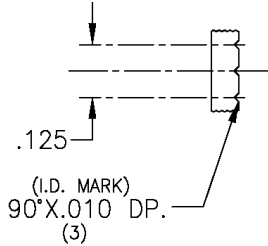
ACTUAL SIZE

- NOTES: ±.006
1. .064 TYP. WALL THKN. EXCEPT AS NOTED.
 2. BREAK SHARP CORNERS AT .010 R.
 3. NO EXPOSED SURFACES

REVISION					tel TOWER EXTRUSIONS, LTD. WYLIE, TX			
					NAME POCAHONTAS			
	ALUMINUM ASSOCIATION STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED				PART NO. AF-5569		DWG. NO. D-062320-01	
	EST. AREA .094	TOTAL PERIM. 2.866	DATE: 06-23-20	DRAWN BY: S. BATALLA	END USE STIFFNER FOR FIXED INTERLOCK			
EST. WT./FT. .113	CIRCLE SIZE 1.07	HOLES	PREF. PRESS	CLASS SOLID		ALLOY 6063-T5	CAVITY	DIE NO. M-15271
OUTSIDE PERIM. 2.866	FACTOR 25	DIE SIZE	SCALE 3:1					

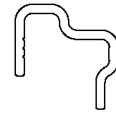
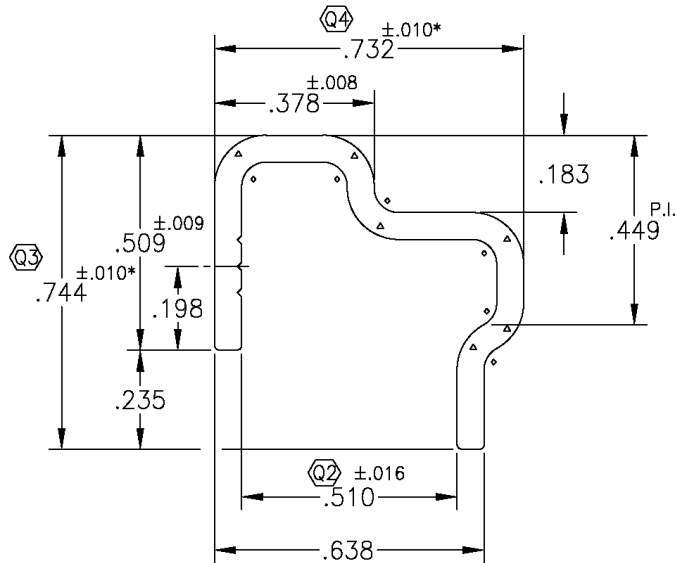


FINISH()
2PC()



CONSTRUCTION CONSULTING LABORATORY INTERNATIONAL
 1601 Luna Road
 Carrollton, Texas 75006
 Phone (972) 242-9556
 Report# 25-208 Date 10-27-25
 Reviewed BY WW

DIE NO.	M-15272
X" PRESS	
BKR. NO.	
BOLS. NO.	
FDR. PLT.	
EXT. RATIO	
.058 R.-(*) (6)	
.122 R.-(*) (6)	



ACTUAL SIZE

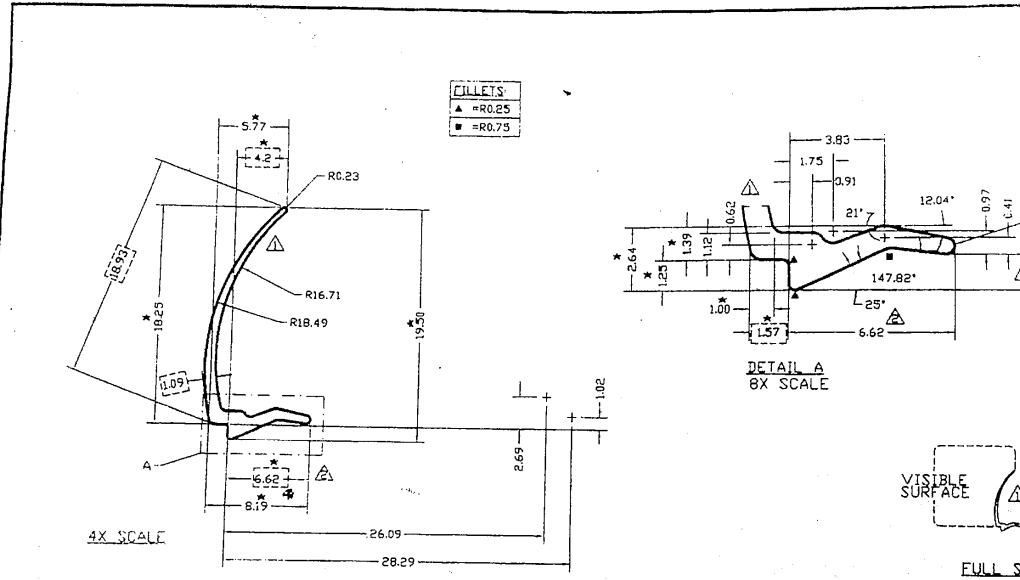
- NOTES: ±.006
- .064 TYP. WALL THKN. EXCEPT AS NOTED.
 - BREAK SHARP CORNERS AT .010 R.
 - NO EXPOSED SURFACES

REVISION					tel TOWER EXTRUSIONS, LTD. WYLIE, TX			
					NAME POCAHONTAS			
	ALUMINUM ASSOCIATION STANDARD TOLERANCES TO APPLY UNLESS OTHERWISE SPECIFIED				PART NO. AF-5570		DWG. NO. D-062320-02	
	EST. AREA .111	TOTAL PERIM. 3.611	DATE: 06-23-20	DRAWN BY: S. BATALLA	END USE STIFFNER FOR LOCK RAIN			
EST. WT/FT. .133	CIRCLE SIZE 0.93	HOLES	PREF. PRESS	CLASS SOLID		ALLOY 6063-T5	CAVITY	DIE NO. M-15272
OUTSIDE PERIM. 3.611	FACTOR 27	DIE SIZE	SCALE 3:1 P					



PN 0343200-1

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DIMENSIONS ARE IN MILLIMETERS. * = DIMENSION TAKEN FROM FURTHEST POINT ON RADIUS

NOTE: ALL DIMENSIONS CAN BE ASSUMED AS ORIGINATING FROM SHARP CORNERS, UNLESS NOTED OTHERWISE

CRITICAL DIMENSION

FLATNESS & SQUARENESS CRITICAL

NO.	REVISIONS	DATE
2.	REVISE LENGTH OF LEG, 6.98 TO 6.62	9 DEC 2010
1.	UPDATED BLOCK WEIGHT AND AREA	1 SEPT 2010

PER I. 2.5.2.14 FOR 1344

1.25mm	130mm
1.6mm	105mm
1.07mm	45mm

WEIGHT: 0.022 lb/ft AREA: 22.322mm²

UNSPECIFIED WALL THICKNESS N/A

UNSPECIFIED RADIi 0.5mm UNSPECIFIED TOLERANCE ±0.2mm

DRAWN: JHN DATE: 17 FEB

CHK'D: DATE:

TITLE 3/4" GLAZING BEAD

-END OF REPORT-